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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/696,013	10/26/2000	Hiroshi Yoshida	P107400-00016	2916

7590 08/10/2004

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EXAMINER	
KOSLOW, CAROL M	

ART UNIT	PAPER NUMBER
1755	

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/696,013	YOSHIDA ET AL.	
	Examiner	Art Unit	
	C. Melissa Koslow	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-10 and 13-22* is/are pending in the application.

4a) Of the above claim(s) *13-22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

This action is in response to applicants' amendment of 21 June 2004. Applicant's arguments have been fully considered but they are not persuasive with respect to the first 35 USC 112 rejection of claim 7. Applicant's arguments have been fully considered with respect to the second paragraph 35 USC 112 rejection over claims 6-10. The rejection has been modified based on these arguments.

Claims 13-22 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The claimed method of adjusting the ferromagnetic characteristics of a ZnO-type compound in the form of a single crystal is unrelated to the originally claimed method of method of adjusting the ferromagnetic characteristics of a ZnO-type compound since they are not usable together and they have different effects.

Since applicant has received an action on the merits for the originally presented invention which where to the process where the crystal form of the compound was not given, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 13-22 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Applicants arguments on page 6 that "single crystalline" means the compound has a uniform crystalline structure having no grain from one end to the other indicates that the compound is a single crystal since this definition is that of a single crystal.

Applicant's arguments traversing the election by original presentation is acknowledged. The traversal is on the ground(s) that one would know from reading the specification that the originally filed claims were directed to single crystals even though this was not claimed. This argument is not persuasive since structural limitations, such as that the compound is a single

crystal, from the specification cannot be read into the claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Also as discussed in the last office action, the definition of the phrase "single crystalline" was not clearly stated in the specification and therefore one would not necessarily know that the claimed compound should be a single crystal. Applicants assert the Examiner examined the single crystal, but this is incorrect. There was no indication in the original claims that the compound was a single crystal and thus there was no reason for the Examiner to search for such crystals for the original office action of 2/4/03 and as discussed in the advisory action of 8/22/03, the Examiner interpreted the phrase "single crystalline", which was added in the amendment of 5/5/03, as being a polycrystalline compound having a single crystalline phase. It is standard in patents practice that unless there is some statement in the claims that the compound is a single crystal, they are treated as polycrystalline. Therefore single crystals of a ferromagnetic ZnO-type compound were never originally examined.

The requirement is still deemed proper and is therefore made FINAL.

The Examiner strongly suggests applicant refile this application as a new continuation or divisional where the fact the claimed subject matter deals with single crystal compounds is clearly set forth in the claim, either by using the phrase "single crystal" or by clearly defining the phrase "single crystalline" in the specification.

Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

There is no teaching in the specification to enable one of ordinary skill in the art determine the necessary amounts and composition of the dopant from groups (1)-(3) in order to produce compound having a predetermined ferromagnetic transition temperature. There is no taught relationship between the amounts and composition of the dopant to the ferromagnetic transition temperature. While the specification generically teaches the dopants in an amount in the range of 1-99 at% will adjust the ferromagnetic transition temperature, there is no indication how one can determine the necessary amounts and composition of the dopant from groups (1)-(3) from those claimed when given a specific ferromagnetic transition temperature without undue experimentation.

Applicants' arguments have been considered but they are not convincing. The specification is not enabling for the process of claim 7 where the ferromagnetic transition temperature is determined and then the amount and composition of dopant is chosen in order to produce the compound having this predetermined ferromagnetic transition temperature. Figures 3a, 4a and 4b do not provide sufficient detail in order for one of ordinary skill in the art to determine the relationship between the amount of V, Ni, Cr, Co, Fe, Fe and Co and Fe and Mn and the ferromagnetic transition temperature. This is because there are no increments on the graphs of these figures. In addition the figures do not disclose all the claimed dopants are taught in these figures. The rejection is maintained.

Claims 6-10 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for modifying the ferromagnetic characteristics of a ferromagnetic ZnO-type compound having a single crystalline structure, does not reasonably provide enablement for modifying the ferromagnetic characteristics of a ferromagnetic ZnO-type compound where the

crystal structure is not defined. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

The declaration of 11/21/03 shows that only ZnO-type compounds in the form of a single crystal doped with the claimed elements will have ferromagnetic characteristic. It shows that polycrystalline compounds, which are encompassed by claims 6-10, cannot be modified by the claimed process so as to have ferromagnetic characteristics.

Applicant's arguments necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached at (571) 272-1362.

The fax number for all official communications is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
August 9, 2004

C. Melissa Koslow
Primary Examiner
Tech. Center 1700